# ONKYO. SERVICE MANUAL

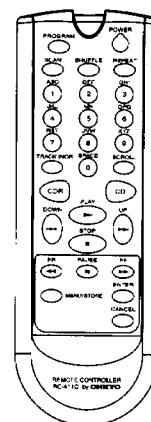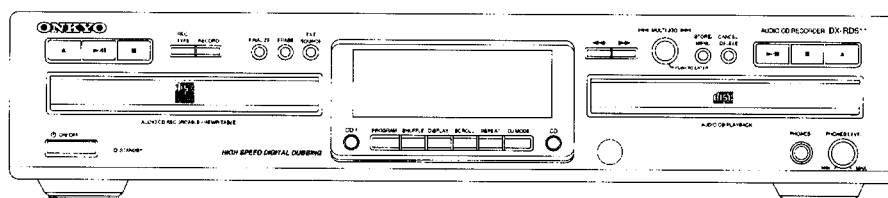**Ref NO. 3665**

052000

## AUDIO CD RECORDER
## DX-RD511

**Black model**

**120 V AC   60Hz**

## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBER APPEAR AS SHOWN IN THIS MANUAL.
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

# ONKYO®
# AUDIO COMPONENTS

## TABLE OF CONTENTS

# SERVICE PROCEDURE

**Perform a reset**

This device employs a microprocessor to perform various functions and operations. If interfarence generated by an external power supply, radio waves, or other electrical source results in an accident which causes the specified operations and functions to operate abnormally.

To perform a reset, please follow the procedure below.

1. It is confirmed for the tray of CD to close.
2. The mechanical power switch is OFF.
3. The mechanical power switch is pushed while pushing ìYESî and ìEDIT/NOî button from the state with the power supply on.

**Safety-check out**

(Only U.S.A. model)

After correcting the original service problem perform the follwing safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel. Specifications: More than 10Mohm at 500V.

# PROTECTION OF EYES FROM LASER BEAM

# DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. INCASE IT IS NECESSARY TO CONFIRM LASER BEAM EMMISION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

**Laser Diode Properties**

| | |
|---|---|
| Material: | GaAS/GaALAs |
| Wavelength: | 778~787nm |
| Emission Duration: | continuous |
| Laser output: | MAX. 23mW |
| | PLAY 0.9mW+/-0.05mW(Ave) |
| | CD-R(REC) 4.9mW+/-0.11mW(Ave) |
| | CD-RW(REC) 5.6mW+/-0.1mW(Ave) |

## LASER WARNING LABEL

The label shown below are affixed.

**1. Warning label**

DANGER-INVISIBLE LASER RADIATION
WHEN OPEN AND INTERLOCK FAILED OR DEFEATED.
AVOID DIRECT EXPOSURE TO BEAM.

CAUTION-HAZARDOUS LASER AND
ELECTROMAGNETIC RADIATION WHEN OPEN AND
INTERLOCK DEFEATED.

ATTENTION-RAYONNEMENT LASER
ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT
AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

29362285

# DX-RD511
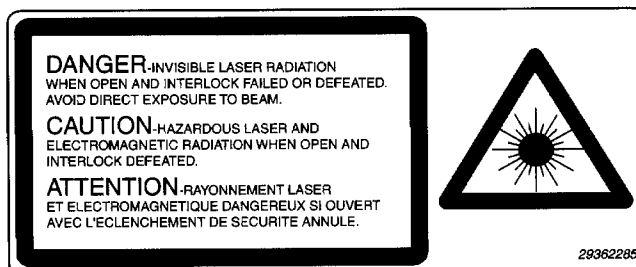
# NAME OF EACH PART
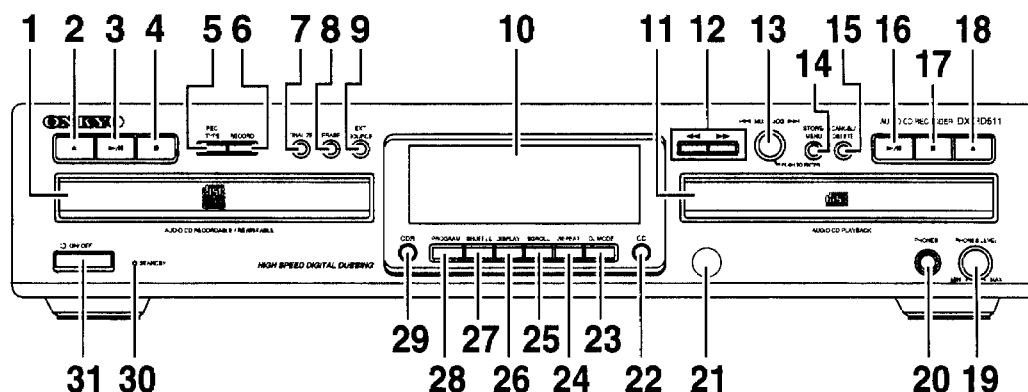


## Front panel of the machine

1 Disc tray on the recording deck
2 ⏏ (Disc tray OPEN/CLOSE) button on the recording deck
3 ►/II (PLAY/PAUSE) button on the recording deck
4 ■ (STOP) button on the recording deck
5 REC TYPE selection button
6 RECORD button
7 FINALIZE button
8 ERASE button
9 EXT SOURCE button
10 Display
11 Disc tray on the playing deck
12 ◄◄/►► button
13 I◄◄ MULTI JOG ►►I PUSH ENTER knob
14 STORE/MENU button
15 CANCEL/DELETE button
16 ►/II (PLAY/PAUSE) button on the playing deck

17 ■ (STOP) button on the playing deck
18 ⏏ (Disc tray OPEN/CLOSE) button on the playing deck
19 PHONES LEVEL knob
20 PHONES (headphones) jack
21 Remote controller sensor
22 CD button
  Pressing this button enables the playing deck (right tray).
23 DJ MODE button
24 REPEAT button
25 SCROLL button
26 DISPLAY button
27 SHUFFLE button
28 PROGRAM button
29 CDR button
  Pressing this button enables the recording deck (left tray).
30 STANDBY indicator
31 ON/OFF switch
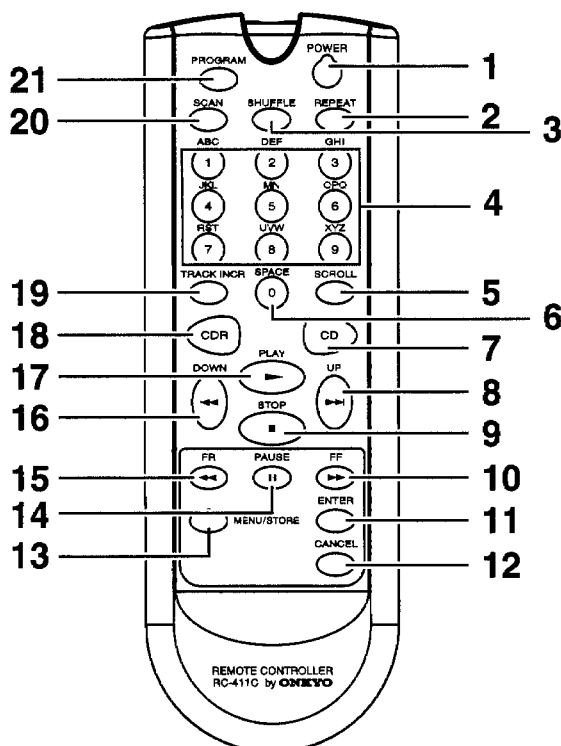
## Remote Controller

1 POWER button
2 REPEAT button
3 SHUFFLE button
4 Numeric/letter input button
5 SCROLL button
6 SPACE/0 (ZERO) button
7 CD button
8 ►►I UP button
9 ■ STOP button
10 ►► FF(fast-forward) button
11 ENTER button
12 CANCEL button
13 MENU/STORE button
14 II PAUSE button
15 ◄◄ FR(fast-return) button
16 I◄◄ DOWN button
17 ► PLAY button
18 CDR button
19 TRACK INCR button
20 SCAN button
21 PROGRAM button

# NAME OF EACH PART
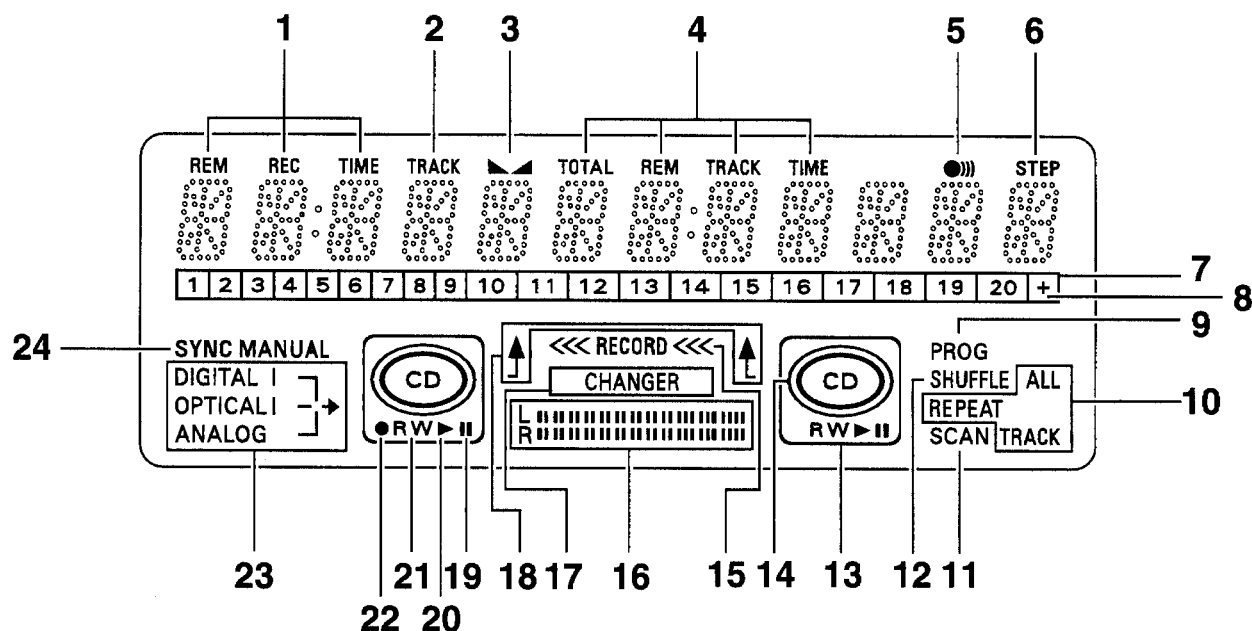


## Display

1 Recording/remaining time indicator
2 Track indicator
3 Balance indicator
4 Disc/track elapsed/remaining time indicator
5 Remote-control signal received indicator
6 Step indicator
7 Track indicator
8 +20 indicator
   Lights up when the disc contains 21 or more tracks.
9 Program indicator
10 Repeat single/all track(s) indicator

11 Scan indicator
12 Shuffle indicator
13 CD player selected indicator
14 CD indicator
15 Recording indicator
16 Recording/playback level indicator
17 Changer mode indicator
18 DJ play mode indicator
19 Pause indicator
20 Play indicator
21 CD-R/CD-RW indicator
22 Recording indicator
23 Input source indicator
   (DIGITAL1/OPTICAL/ANALOG)
24 Recording indicator
   (SYNC/MANUAL)

# DISPLAY MESSAGE

Messages, as listed and explained here, may appear on the display for your guidance.
The displayed message may vary depending on the type of disc used:
**CD:** Audio CD  **R:** CD-R  **W:** CD-RW  **ALL:** All of audio CD, CD-R, and CD-RW **–:** Displayed independent of disc type

### General

| | | |
|---|---|---|
| **READING** | ALL | The unit is reading the information stored on the disc. The disc becomes playable as soon as the time display appears. |
| **OPEN** | - | The unit is opening the disc tray. |
| **CLOSE** | - | The unit is closing the disc tray. |
| **NO DISC** | - | No disc is loaded or the loaded disc is unreadable. The disc may be set upside down. |
| **PROG FULL** | ALL | The unit is unable to store tracks any more. The number of programmed tracks has reached 99. |
| **INSERT DISC** | - | No disc is loaded or the loaded disc is unplayable. See "Playing does not start" or "Recording does not start" in the Troubleshooting Guide section. |
| **WRONG DISC →USE AUDIO CD** | - | The loaded disc is not for audio use. It may be a CD-ROM for use with personal computers. |
| **UNFINALIZED** | R/W | The unit has finished unfinalizing the finalized CD-RW. |
| **MEMORY xx%** | R/W | This indicates what percentage of the CD-TEXT memory is used by the unfinalized disc. See also "MEMORY FULL." |
| **NOT FINALIZED → SCANNING** | W | A CD-RW that has not been finalized is placed in the CD tray. |

### Recording

| | | |
|---|---|---|
| **WAIT** | R/W | The unit is preparing for the next operation, such as for starting or stopping the recording. |
| **UPDATE** | R/W | The unit is updating the information stored on the disc after recording. This also appears during recording if writing to the disc is discontinued due to a disc failure such as a scratch. The recording stops immediately. |
| **DISC FULL** | R/W | The unit is unable to store tracks on disc any more. |
| **DIGITAL 1** | - | Coaxial external digital input (CDR DIGITAL IN)is selected. |
| **OPTICAL** | - | Optical external digital input (CDR OPTICAL DIGITAL IN) is selected. |
| **ANALOG** | - | External analog input (CDR ANALOG IN) is selected. |
| **COPY PROTECT** | - | The unit is unable to record the digital input signals from the external source. |
| **NOTFINALIZED** | R/W | The disc in the open disc tray has not yet been finalized (CD recorder). This means that the disc is unplayable on other CD players. |
| **RECORD FAST** | R/W | The fast recording mode is selected, where the recording time is 1/2 of the normal recording mode but no sound is heard. |
| **REC LISTEN** | R/W | The normal recording mode is selected. The sound will be heard during recording. |
| **MAKE CD** | R/W | The automatic finalization function is selected. The disc will be finalized automatically when the recording is finished. |
| **REC EXT DISC** | R/W | Synchro recording from an external source is selected. |
| **REC EXT MAN** | R/W | Manual recording from an external source is selected. |
| **xx dB** | R/W | The attenuation level is shown in all recording modes whenever you rotate the MULTI JOG knob to set the recording level. |
| **DOES NOT FIT** | R/W | The total playback time of the CD does not fit the total recording time of the CD-R or CD-RW. |
| **ANALOG REC** | R/W | The unit automatically selects the analog recording mode, if the disc contains audio signals of which digital copying is prohibited. |
| **ERASE TRACK** | W | The track is to be erased. |
| **ERASE DISC** | W | The whole contents of the disc are to be erased. |
| **FINALIZE** | R/W | The CD-R or CD-RW is to be finalized so that it is readable on ordinary CD players. |
| **FINALIZED** | R/W | The CD-R or CD-RW you attempted to finalize need not be finalized because it has already been finalized. |
| **CHECK INPUT** | R/W | An attempt was made to record through one of the external digital input channels, but no signal has been detected. Check that the cables are connected firmly and that the external digital source is turned on and outputting digital signals. |
| **xx xx ERASE** | W | When a track is being erased, the time to the completion of erasure is counted down. |
| **xx xx FINAL** | R/W | When a disc is being finalized, the time to the completion of finalization is counted down. |
| **PRESS RECORD** | R/W | Press the RECORD button when this message is displayed to start recording or erasing. |
| **START SOURCE** | R/W | During synchro recording from an external source, start playback on it to start recording in response to the input signals. |
| **FINALIZED CD** | CD/R | An attempt was made to record on a finalized CD-R or ordinary CD. |
| **UNFINALIZE/ PRESS ENTER** | W | An attempt was made to record on a finalized CD-RW. Press the MULTI JOG knob to start unfinalizing the CD-RW. |

### Recording (continued)

| | | |
|---|---|---|
| **PROF SOURCE** | R/W | "REC EXT DISC" or "REC EXT MAN" is selected, but the unit is connected to professional audio equipment. The serial copy management system (SCMS) prohibits recording from professional equipment with any consumer-product recorder including this unit. |
| **TEXT PROTECT** | R/W | The CD text data stored on discs cannot be copied. |

### Playback

| | | |
|---|---|---|
| **CHANGER MODE** | - | The changer mode is selected. |
| **DJ MODE** | - | DJ mode play is selected. |
| **PROGRAM** | ALL | Program play is selected. |
| **ALBUM TITLE** | ALL | If the disc contains album title information in the CD-TEXT format, this message appears when the SCROLL button is pressed. |
| **TRACK TITLE** | ALL | If the disc contains track title information in the CD-TEXT format, this message appears when the SCROLL button is pressed. |
| **ALBUM ARTIST** | ALL | If the disc contains album artist name information in the CD-TEXT format, this message appears when the SCROLL button is pressed. |
| **TRACK ARTIST** | ALL | If the disc contains track artist information in the CD-TEXT format, this message appears when the SCROLL button is pressed. |

### Others

| | | |
|---|---|---|
| **NO AUDIO TR** | CD | Some tracks include other than audio data. These tracks cannot be played back. |
| **FINALIZE CD** | R | Writing to a CD-R is impossible, if it has been ejected and re-inserted 96 times. Finalize the CD-R before attempting to write on it. |
| **INITIALIZING** | R/W | The unit is measuring the laser output level of its optical pickup for writing to the disc. Do not turn off the power until this message disappears because the unit is writing to or reading from the disc. |
| **DISC RECOVER** | R/W | This message appears immediately after power on if the unit has been turned off during recording or initialization. The tracks that recorded before power shutoff can be restored. The disc may be finalized automatically when recovered. (See page 29.) |
| **OPC ERROR** | R/W | Any disc causing this error message cannot be used because the laser output level of the optical pickup cannot be optimized for writing. |
| **RECORD ERROR** | R/W | This appears in the text edit mode if writing to the disc is discontinued due to a disc failure such as a scratch. The text-edit display will be restored, although the recording stops immediately. |
| **DISC ERROR** | R/W | Writing to or reading from the disc is not possible for some reason. This error is generally caused by dirt or scratches on discs. |
| **MEMORY FULL/ FINALIZE CD** | R/W | You cannot enter additional characters because the CD-TEXT memory has become full. Finalize the disc or erase the entered characters before attempting to enter additional characters. |
| **PRESS DJMODE** | - | The attempted operation is unavailable in the changer mode. Please select the DJ mode. |
| **FIRST TIME** | R/W | The memory retains some data when "MEMORY VIEW" is selected. |

### Menu Message

| | | |
|---|---|---|
| **NO TRACKS** | R/W | An attempt was made to edit text information on a disc that contains no recorded tracks. |
| **TEXT EDIT** | R/W | The TEXT EDIT mode is set. |
| **CD ARTIST** | R/W | The album artist name is to be modified or erased. |
| **CD TITLE** | R/W | The album title is to be modified or erased. |
| **TR n ARTIST** | R/W | The artist name for the track number indicated as "n" is to be modified or erased. |
| **TR n TITLE** | R/W | The title for the track number indicated as "n" is to be modified or erased. |
| **TEXT ERASE** | R/W | The TEXT ERASE mode is set. |
| **ALL TEXT** | R/W | The whole text is displayed. |
| **ERASE OK** | R/W | You can press the MULTI JOG knob to erase the entered character. |
| **ERASE ALL OK** | R/W | You can press the MULTI JOG knob to erase the whole text. |
| **ERASE MEMORY** | R/W | You can erase the text data (set in memory) on the disc that has not been finalized yet. |
| **MEMORY VIEW** | R/W | You can view the text data (set in memory) on the disc that has not been finalized yet. |
| **MEMORY EMPTY** | R/W | No text data is set (in memory). |
| **AUTO TRACK** | R/W | The AUTO TRACK mode is selected. |
| **ON** | R/W | The AUTO TRACK mode is set to "ON." |
| **OFF** | R/W | The AUTO TRACK mode is set to "OFF." |
| **SET BALANCE** | R/W | The recording balance can be adjusted by rotating the MULTI JOG knob. |
| **NO TEXT** | ALL | The disc contains no CD text data. |

# CHASSIS-EXPLODED VIEW

The screw not specified is S1.
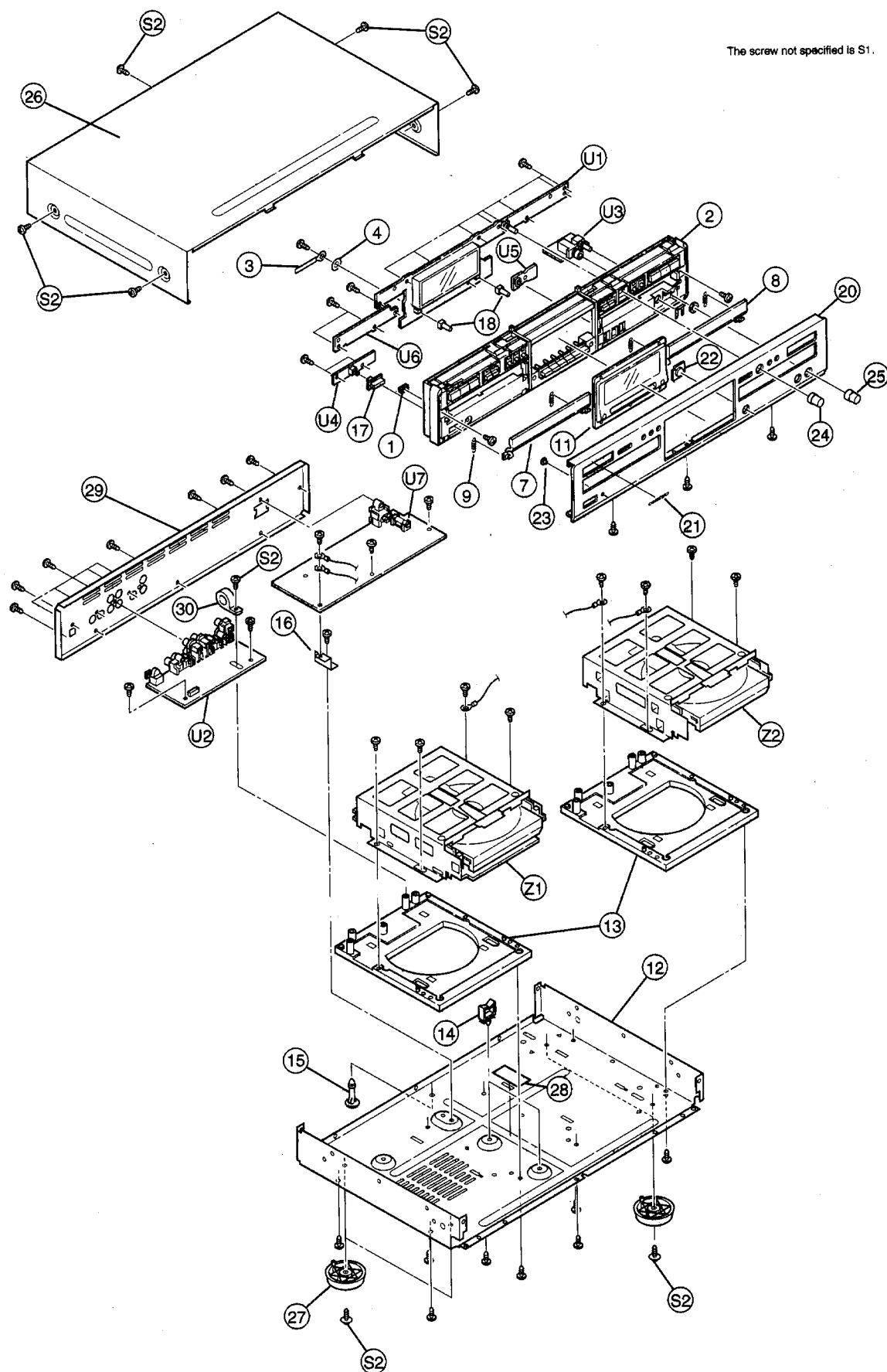
# CHASSIS-EXPLODED PARTS LIST

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| U1 | 1H428517-1A | NADIS-6717-1A, Display circuit pcboard AS |
| U2 | 1H428518-1A | NAAF-6718-1A, Audio terminals pcboard AS |
| U3 | 1H428519-1A | NAAF-6719-1A, Headphones terminal pcboard AS |
| U4 | 1H428520-1A | NASW-6720-1A, Power switch circuit pcboard AS |
| U5 | 1H428521-1A | NAETC-6721-1A, Remote sensor circuit pcboard AS |
| U6 | 1H428522-1A | NAETC-6722-1A, CDR control button pcboard AS |
| U7 | 24150008 | ⚠ PSU-CDR775-1, Power supply circuit pcboard AS |
| 1 | 28141412 | Cushion |
| 2 | 27111138A | Front Bracket |
| 3 | 27255004 | CS-1U, Clip |
| 4 | 27270393 | (MARU), Spacer |
| 5 | 27190608 | UA-0, Holder |
| 7 | 28148422A | Door (Left) |
| 8 | 28148423A | Door (Right) |
| 9 | 27180576 | Spring (Door) |
| 10 | 28133390 | B Plate |
| 11 | 28191866A | Clear Plate (FL) |
| 12 | 27100379 | Chassis |
| 13 | 27191087B | Holder (M) |
| 14 | 27300243Y | WS-2W, WS Clamp |
| 15 | 27190772 | KGLS-22RF, Holder |
| 16 | 27141750 | Retainer (Pcboard) |
| 17 | 28325696 | Knob (Power) |
| 18 | 28325699 | Knob (CD) |
| 19 | 29362553 | Label (Fuse Symbol) |
| 20 | 27212144A | Front Panel |
| 21 | 28135244Y | BADGE, Badge |
| 22 | 28191869 | Clear Plate (IR) |
| 23 | 28198864 or | Facet or |
| | 28198895 | Facet (1P) |
| 24 | 28325702 | Knob (AMCS) |
| 25 | 28325452Y | Knob (MIC) |
| 26 | 28184764 | Cover |
| 27 | 27175311A | Leg AS |
| 28 | 29362285 | Label |
| 29 | 27122659A | Rear Panel |
| 30 | 230910 | ESD-R-25DB, Core |
| F1 | 2046074012 | NCFC6-074012, Flat Flexible Cable |
| F2 | 2042141012 | NCFC2-141012, Flat Flexible Cable |
| F3 | 2042223012 | NCFC2-223012, Flat Flexible Cable |
| S1 | 838130088 | 3TTB+8B, Screw |
| S2 | 831430088 | 3TTW+8B(BC), Screw |
| Z1 | 24800044 | VAUR775, CD-Recorder Mechanism AS |
| Z2 | 24800045 | VAL1250, CD-Player Mechanism AS |

NOTE: THE COMPONENTS IDENTIFIED BY ⚠ MARK ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.
REPLACE ONLY WITH PART NUMBER SPECIFIED.

# Packing View



Accessary AS

Front Side

Front Side

Accessary AS
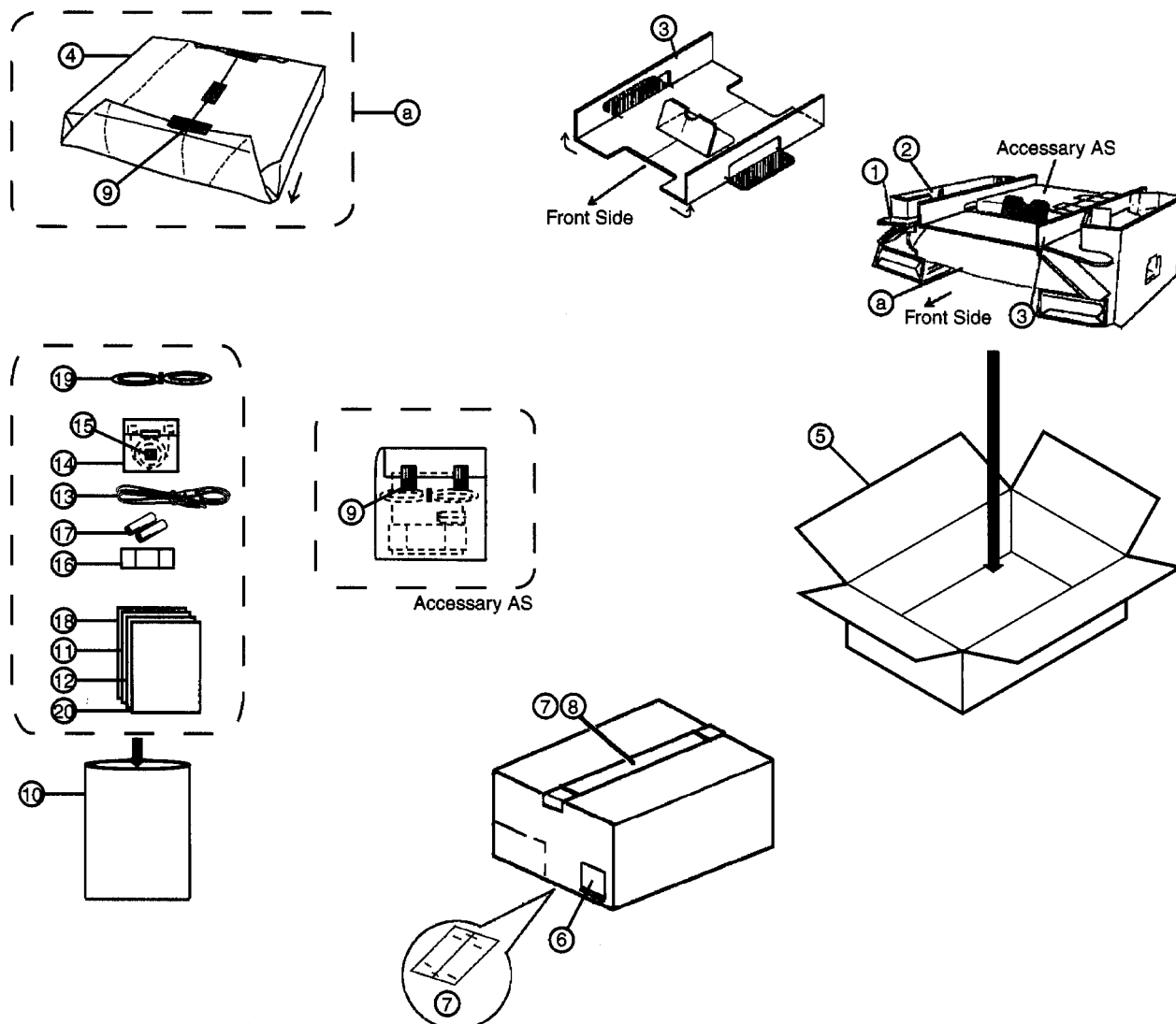
| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| **Packing** | | |
| 1 | 29091894 | Pad |
| 2 | 29091895 | Pad (S) |
| 3 | 29095872A | Sheet (ACCE) |
| 4 | 29095847 | Sheet |
| 5 | 29053513 | Carton |
| 6 | 29362523 | Label UPC AS |
| 7 | 282321 | Staple |
| 8 | 29110141 | PP Tape |
| 9 | 29110149 | Tape (CEROHAN) |

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| **Accessary AS** | | |
| 10 | 29100097-1A | 350*250, Poly Bag |
| 11 | 29365083 | Warranty Card |
| 12 | 29095866 | Sheet (ONKYO) |
| 13 | 2010098A or | Pin-Cord AS or |
| | 2010244 | Pin-Cord AS |
| 14 | 2050039 | NCS-1P104, Cord AS |
| 15 | 29361573 | Label (PE-LD) |
| 16 | 24140411 | RC-411C, Remote Control Unit |
| 17 | 3010124 | UM-4, Battery |
| 18 | 29342803A | Instruction Manual, E |
| 19 | 253291 | AS-UC-6, AC Cord |
| 20 | 29355318 | Instruction Sheet, E |

# IC Block diagrams and Description

## Q603    15-BT-69GNK:FL Tube

GRID ASSIGNMENT
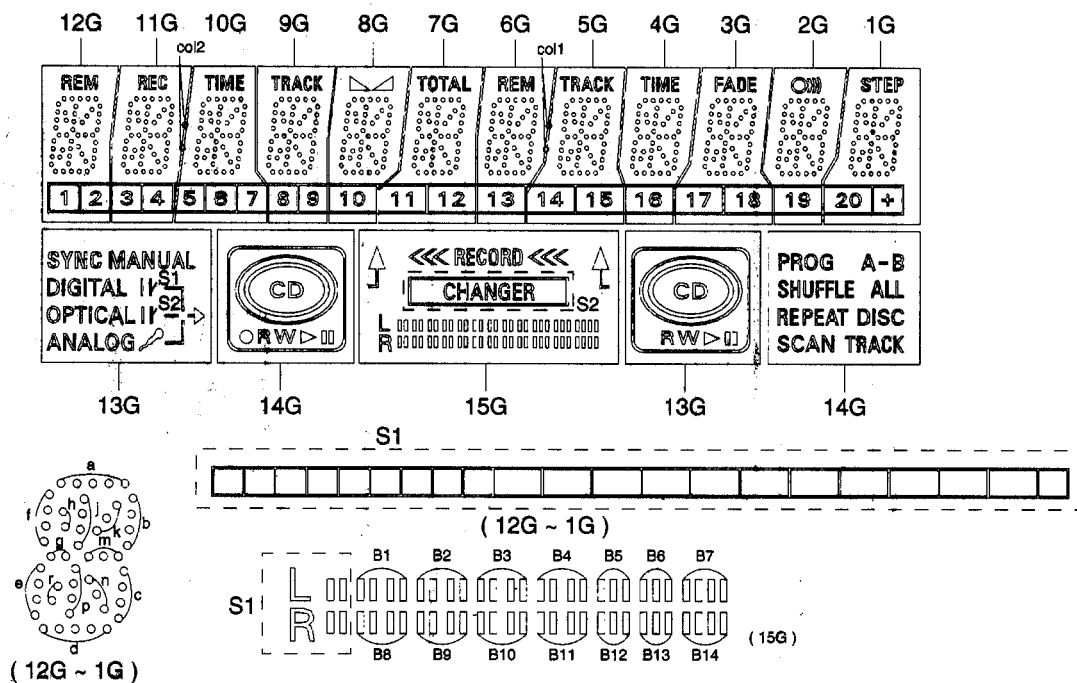


ANODE CONNECTION

| | 15G | 14G | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | B14 | − | DIGITAL I | a | a | a | a | a | a | a | a | a | a | a | a |
| P2 | B13 | TRACK | S1 | j,p | j,p | j,p | j,p | j,p | j,p | j,p | j,p | j,p | j,p | j,p | j,p |
| P3 | B12 | SCAN | OPTICAL I | h | h | h | h | h | h | h | h | h | h | h | h |
| P4 | B11 | DISC | S2 | k | k | k | k | k | k | k | k | k | k | k | k |
| P5 | B10 | REPEAT | ANALOG | b | b | b | b | b | b | b | b | b | b | b | b |
| P6 | B9 | ALL | SYNC | f | f | f | f | f | f | f | f | f | f | f | f |
| P7 | B8 | SHUFFLE | MANUAL | m | m | m | m | m | m | m | m | m | m | m | m |
| P8 | B7 | B | ⌐ | g | g | g | g | g | g | g | g | g | g | g | g |
| P9 | B6 | ▭ | ▭ | c | c | c | c | c | c | c | c | c | c | c | c |
| P10 | B5 | A | ⌐ | e | e | e | e | e | e | e | e | e | e | e | e |
| P11 | B4 | PROG | ⇨ | r | r | r | r | r | r | r | r | r | r | r | r |
| P12 | B3 | ○ | ↝ | n | n | n | n | n | n | n | n | n | n | n | n |
| P13 | B2 | ▷ | ▷ | d | d | d | d | d | d | d | d | d | d | d | d |
| P14 | B1 | II | II | REM | REC | TIME | TRACK | ◁▷ | TOTAL | REM | TRACK | TIME | FADE | O))) | STEP |
| P15 | ↑(右) | CD | CD | 1 | 3 | 5 | 8 | 10 | 11 | 13 | 14 | 16 | 17 | 19 | 20 |
| P16 | S2 | ▭ | ▭ | 2 | 4 | 6 | 9 | − | 12 | − | 15 | − | 18 | − | + |
| P17 | <<<RECORD<<< | ○ | ○ | − | − | 7 | − | − | − | − | − | − | − | − | − |
| P18 | ↑(左) | R | R | − | − | − | − | − | − | − | − | − | − | − | − |
| P19 | − | W | W | − | − | − | − | − | − | − | coI1 | − | − | − | − |
| P20 | − | − | − | − | coI2 | − | − | − | − | − | − | − | − | − | − |
| P21 | S1 | − | − | S1 | | | | | | | | | | | |

# CONNECTION DIAGRAM

U2:NAAF-6718

U7:PSU-CDR775-1

Z2:VAL1250,CD-PLAYER

U3:NAAF-6719

U5:NAETC-6721

U1:NADIS-6717

Z1:VAUR775, CD-RECORDER

U6:NAETC-6722

U4:NASW-6720

1209, 1208, 1206, 1205, P601, P602, P501, S3, P701, P702, P703, P705, P704, P552, P551, P401, P403, P404, P405, P451, 1708, 1500, 1705, 1400, 1410, F1, F2, F3, J1, S1, S2, S4, S5, S6, S7, S8

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| F1 | 2046074012 | NCFC6-074012,FFC |
| F2 | 2042141012 | NCFC2-141012,FFC |
| F3 | 2042223012 | NCFC2-223012,FFC |
| J1 | 61200606B15 | JL6 200 BUL2651#26,JUMPER LEAD |
| S1,S2 | 2003B292210 | NSAS-22P0769,SOCKET AS |
| S3 | 2006390605UL | NSAS-6P0451,SOCKET AS |

| REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|
| S4 | 2003B290460 | NSAS-4P0770,SOCKET AS |
| S5 | 2002A390660 | NSAS-6P0761,SOCKET AS |
| S6 | 2003B290850 | NSAS-8P0771,SOCKET AS |
| S7 | 2002A392035 | NSAS-20P0738,SOCKET AS |
| S8 | 2002A390420 | NSAS-4P0754,SOCKET AS |

# DIAGNOSTIC SOFTWARES

## 1. Dearler mode

The purpose of the player at exhibitions, showrooms etc..
This mode disables the open/close function of the player.
The dealer mode can be switched on and off pressing
keys [OPEN/CLOSE] and [STOP] of the CDR player
simultaneously while switching on the unit. The delaer
mode is stored in the flash memory and can only be
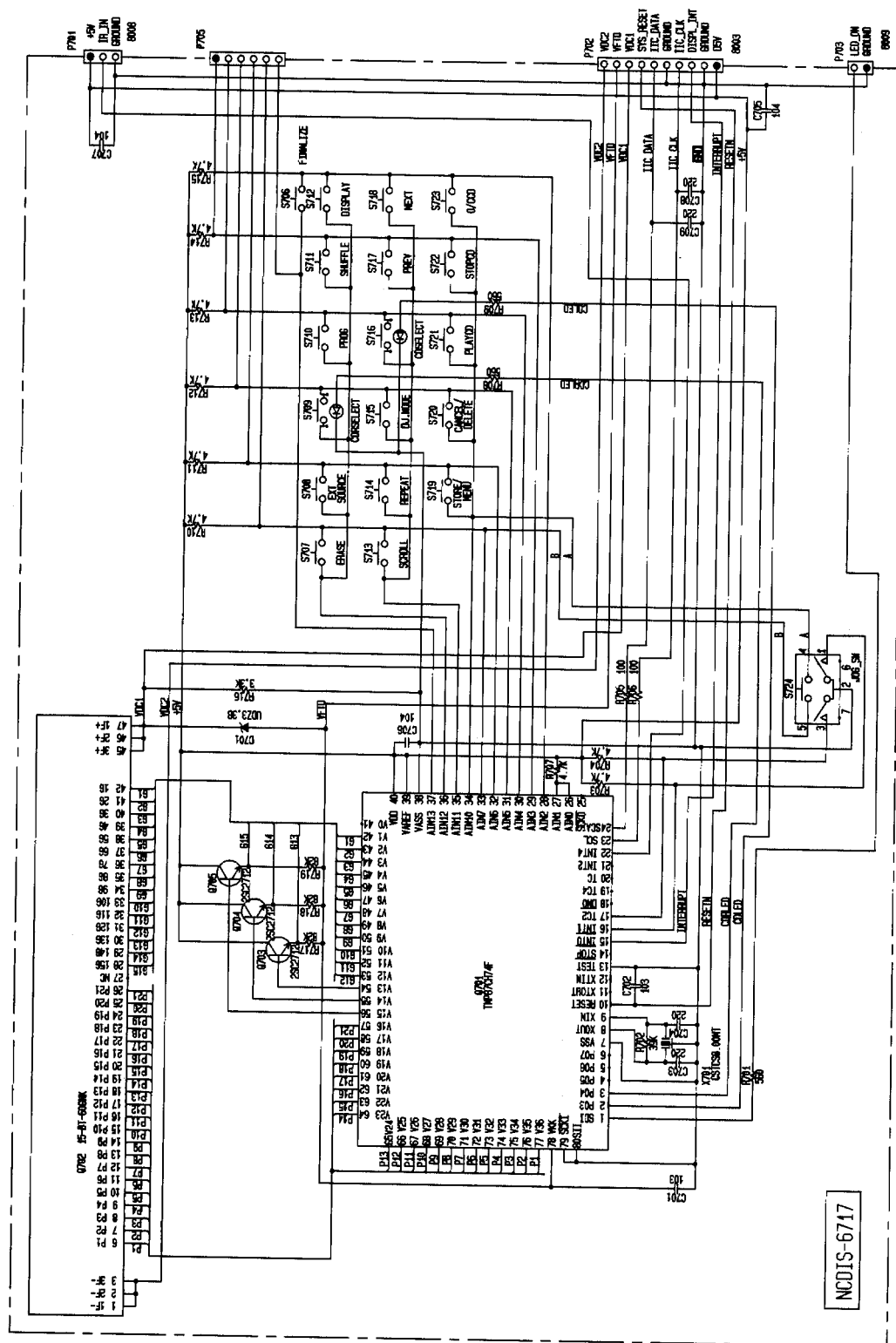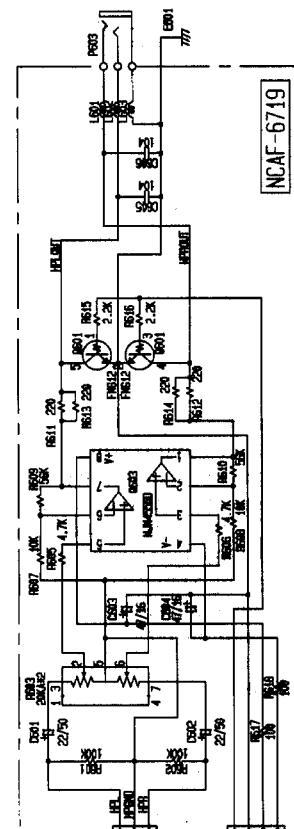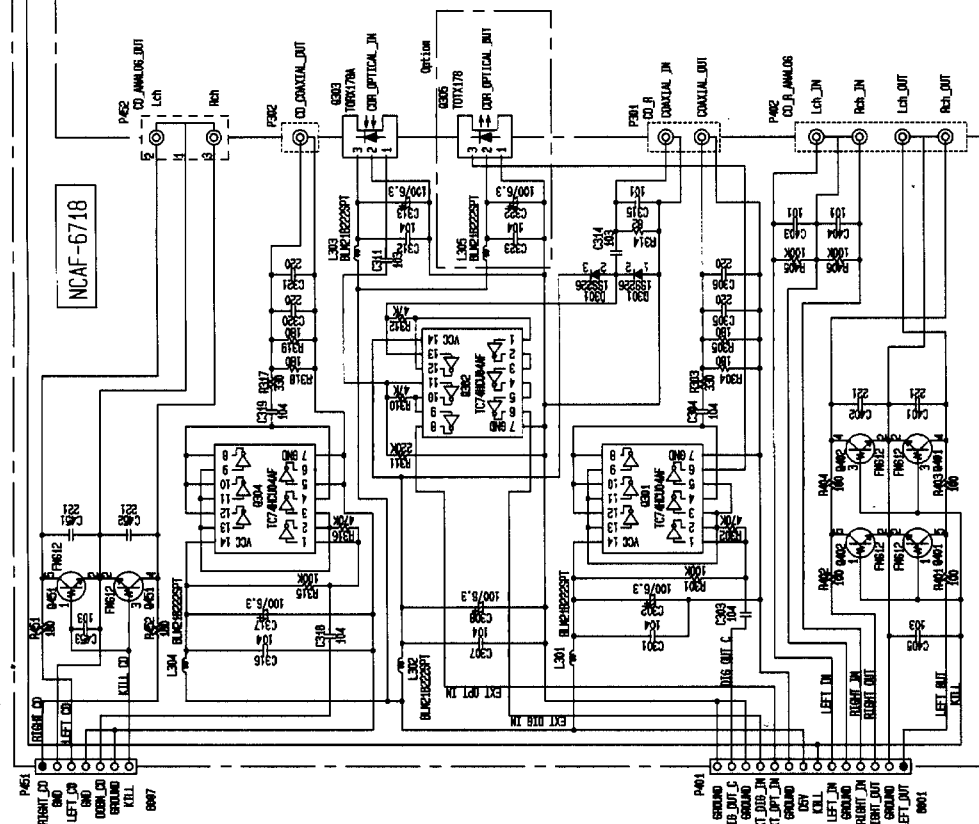changed by executing the above actions.

## 2. Diagnostics

```
┌─────────────────────────┐
│ Press <REWIND> + <FFWD> │
│   simultaneously and switch │
│        ON unit          │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│     Display blinks      │
│        "BUSY"           │
│      during test        │
└─────────────────────────┘
            │
            ▼
        ◇─────────◇                ┌──────────────┐
        │ Set OK? │ ──────────────▶│ Set displays │
        ◇─────────◇                │   "ERROR"    │
            │                      └──────────────┘
            ▼                              │
┌──────────────────┐                       │
│   Set Displays   │                       │
│    "PASSED"      │                       │
└──────────────────┘                       │
            │                              │
            ▼                              ▼
┌─────────────────────────────────────────────┐
│      To end test, switch OFF unit           │
└─────────────────────────────────────────────┘
```
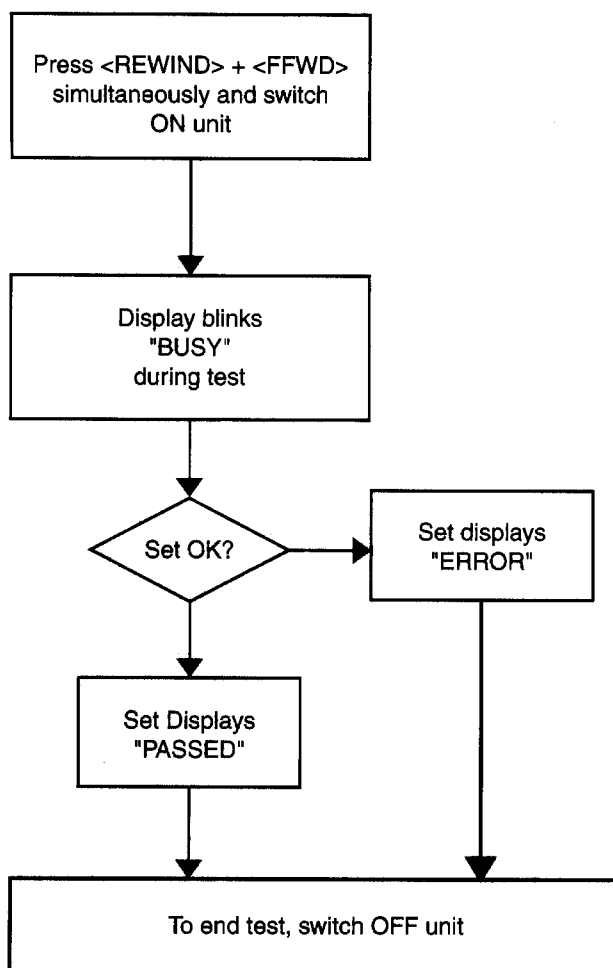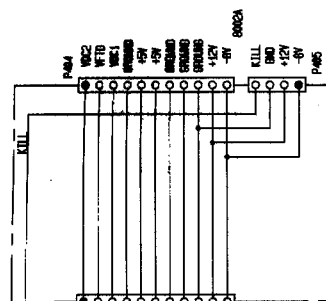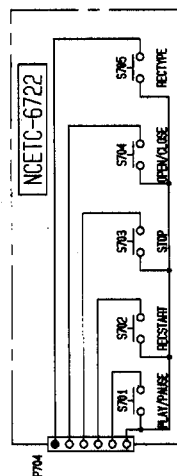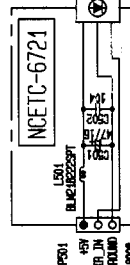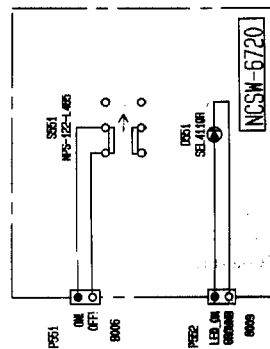
## 2-1. Description

The intention of the dealer diagnostics is to give an
indication of the CDR player status. An inexperienced,
even nontechnical dealer will/can perform the test. Tests
are executed automatically without need for external tools
or disassembly of the unit. This test checks the CDR main
board using the same tests as the electrical service
diagnostics program. Only the result of test, ìPASSEDî or
ìERRORî, will be shown on the display. Pressing keys [F
FWD] and [REWIND] simultaneously while switching on
the unit, starts the test. Switching off the unit ends the

**Display circuit pc board AS (NADIS-6717-1A)**

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **Semi Conductor** | |
| D701 | 224490330R2 | UD73.3B, Zener Diode |
| Q701 | 22241413R3 | TMP87CH74F-6851, IC |
| Q702 | 212203 | 15-BT-69GNK, Fluorescent Tube |
| Q702A | 27191088 | Holder (Fluorescent Tube) |
| Q703~Q705 | 2213143R2 or | 2SC2712-O, Transistor or |
| | 2213144R2 | 2SC2712-Y, Transistor |
| | **Trans Coil** | |
| X701 | 3010255R2 | 8.00MHz, Cera Lock |
| | **Switch, Terminal** | |
| P701 | 25055367 | NPLG-3P350, Plug |
| P702 | 2002A392055 | NSAS-20P0749, Socket AS |
| P703 | 2002A390420 | NSAS-4P0754, Socket AS |
| P704 | 25051090 | NSCT-6P877, Wire Holder |
| P704A | 6J200606B15 | JL6 200 BUL2651#26, Jumper Lead |
| P705 | 25055627 | NPLG-6P589, Wire TransistorAP |
| S701~S708, S710~S715, S717~S723 | 25035699T | NPS-111-S662, Push Switch |
| S709, S716 | 25035707 | NPS-111-S670, Push Switch (CDR, CD Select) |
| S724 | 25065589 | EC12E24C25, Rotary Encoder (JOG SW) |

**Audio terminals circuit pcboard AS (NAAF-6718-1A)**

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **Semi Conductor** | |
| D301 | 223266R2 | 1SS226, Diode |
| Q301, Q302, Q304 | 22274004 6R2TO | 74HCU04(TC74HCU04F), IC |
| Q303 | 24120037 | TORX178B, Fiber Optic Receiving Module (CDR Optical IN) |
| Q401,Q402, Q451 | 2215940R2 | FMG12, Transistor |
| | **Trans Coil** | |
| L301~L304 | 230921R2 | BLM21B222SPT, Choke Coil |
| | **Capacitor** | |
| C302, C308, C313, C317 | 3933210177T | 100mF/6.3V, Electrolytic Capacitor, VX Type |
| | **Switch, Terminal** | |
| P301 | 25045600 | NPJ-2PDO408, Pin Jack (CDR Coaxial IN/OUT) |
| P302 | 25045548 | NPJ-1PDOR369, Pin Jack (CD Coaxial OUT) |
| P401 | 25051938 | NSCT-14P1725, Socket |

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| P402 | 25045303 | NPJ-4PDBL.162, Pin Jack (CDR Analog IN/OUT) |
| P403 | 2003B292210 | NSAS-22P0769, Socket AS |
| P404 | 2003B292210 | NSAS-22P0769, Socket AS |
| P405 | 25055134 | NPLG-4P118, Plug |
| P451 | 25052203 | NSCT-7P2100, Socket |
| P452 | 25045371 | NPJ-2PDWR214, Pin Jack (CD Analog OUT) |

**Headphone terminal circuit pcboard AS (NAAF-6719-1A)**

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **Semi Conductor** | |
| Q601 | 2215940R2 | FMG12, Transistor |
| Q603 | 22241414R2 | NJM4556AM, IC |
| | **Trans Coil** | |
| L601~L603 | 230921R2 | BLM21B222SPT, Choke Coil |
| | **Capacitor** | |
| C601, C602 | 355742209T | 22mF/16V, Electrolytic Capacitor |
| C603, C604 | 355744709T | 47mF/16V, Electrolytic Capacitor |
| | **Resistor** | |
| R603 | 5112467 | 20KW, A Type, Variable Resistor (Headphone) |
| | **Switch, Terminal** | |
| P601 | 2002A390660 | NSAS-6P0761, Socket AS |
| P602 | 2003B290850 | NSAS-8P0771, Socket AS |
| P603 | 25045255 | YKB26-5009, Jack (Headphone) |

**Power switch circuit pcboard AS (NASW-6720-1A)**

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **Semi Conductor** | |
| D551 | 225290T | SEL4110R, Led (Stanby) |
| | **Switch, Terminal** | |
| P551 | 2003B290460 | NSAS-4P0770, Socket AS |
| P552 | 25055146 | NPLG-2P130, Plug |
| S551 | 25035523 | NPS-122-L485, Push Switch (Power) |

**Remote sensor circuit pcboard AS (NAETC-6721-1A)**

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **Semi Conductor** | |
| Q501 | 241334 | RPM6936-V4, Remote Sensor |
| | **Trans Coil** | |
| L501 | 230921R2 | BLM21B222SPT, Choke Coil |
| | **Capacitor** | |
| C501 | 355744709T | 47mF/16V, Electrolytic Capacitor |
| | **Switch, Terminal** | |
| P501 | 2006390605UL | NSAS-6P0451, Socket AS |

# CIRCUIT DIAGRAMS



NCDIS-6717